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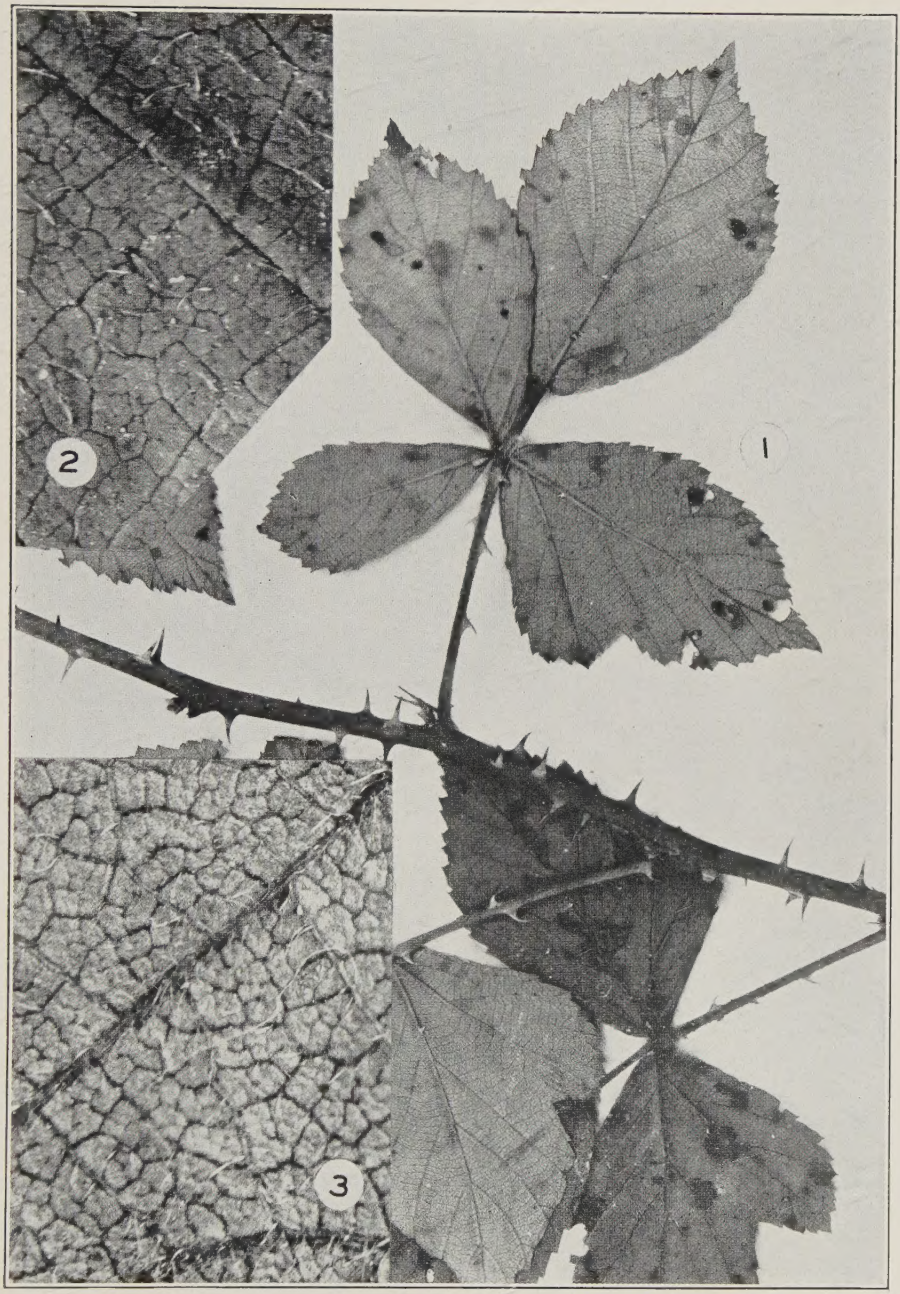

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RUBUS HYPOLASIUS, figs. from TYPE: FIG. 1, portion of primocane, × 1; FIG. 2, upper, and FIG. 3, lower surface of leaf, × 10.

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RUBUS HYPOLASIUS, both figs. from TYPE: FIG. 1, branch of floricane, × ⅓; FIG. 2, upper surface of leaf, × 10.

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JOURNAL OF

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ADDITIONS TO AND SUBTRACTIONS FROM THE FLORA OF VIRGINIA

M. L. Fernald

(*Continued from page 142*)

Rubus celer Bailey. Range extended south from Arlington and Fairfax Counties to Nansemond County: border of ditch, northern border of Great Dismal Swamp, east of Magnolia, *Fernald & Moore*, no. 15,098. See p. 95.

*R. (§ Flagellares) **hypolasius,** sp. nov. (tab. 1064–1066), a *R. flagellare* differt primocannae aculeis rectis horizontaliter divergentibus 4–6 mm. longis; primocannae foliis subtus molliter pilosis supra sparse pilosis; floricannae foliis subtus pilosis; pedicellis pilosis, pilis patentibus, longioribus 1–4 cm. longis.—Sussex County, Virginia: wet swampy depression in pineland 3 to 4 miles northwest of Waverly, June 7, 1946, *Fernald & Moore*, no. 15,102 (type in Herb. Gray.; isotype in Herb. Phil. Acad.), *Fernald, Long & Clement*, September 9, 1946, no. 15,266 and Sept. 11, no. 15267; peaty swales and open bushy or wooded swamp 3½ to 4 miles northwest of Homeville, September 11, 1946, *Fernald, Long & Clement*, no. 15,267.

Rubus flagellaris Willd. of dry open habitats has the usually hooked prickles 2–4 mm. long, the leaves glabrous or essentially so, except for occasional sparse pubescence on the midrib beneath; the pedicels glabrous, 4–12 cm. long and elevating the flowers and fruits well above the bracteal leaves. *R. hypolasius* of swampy pineland and wet thicket has longer and straighter prickles on the primocanes; the lower surfaces of both primocane- and floricane-leaves soft to the touch with pilosity; the short pedicels pilose and not standing evidently above the leafy bracts. Found

by us in similar swampy habitats several miles apart, it evidently has a good area of development.

In its relatively short pedicels *Rubus hypolasius* somewhat suggests *R. celer* Bailey, Gent. Herb. v. 281, fig. 117 (1943), but that species is more slender, with very short and hooked prickles, glabrous foliage and much narrower primocane-leaflets. I can place it with none of the species of § *Flagellares* described and beautifully illustrated by Bailey. See p. 92.

*R. (§ THOLIFORMES) **subinnoxius,** sp. nov. (TAB. 1067–1069), valde arcuans cannis tholos 2 m. altos formantibus, cannis vel ramis pendulis ad 2 m. longis apicibus prostratis plus minusve radicantibus; primocannis simplicibus vel deinde ramosis, arcuatis angulato-subteretibus glabris inermibus vel remote aculeatis; aculeis oblique deltoideo-subulatis unguiculatis 2–5 mm. longis basi 2–4 mm. lato; primocannae foliis imis ternatis mediis superioribusque quinatis submembranaceis supra strigoso-villosis subtus molliter piloso-tomentulosis; petiolo inarmato vel remote unguiculato-armato; foliolis ovatis vel ellipticis duplicato-serratis, foliolo terminali 8–9 cm. longo 4.5–6 cm. lato abrupte longeque acuminato basi cordato, petiolulo tomentoso 2.5–3 cm. longo, foliolis mediis ellipticis vel elliptico-oblongis acuminatis subsessilibus basi sensim rotundatis; floricannis intricate ramosis ramis arcuato-pendulis; floricannae foliis ternatis, foliolis anguste ellipticis vel anguste cuneato-obovatis acutis vel acuminatis dentato-serratis supra strigosis subtus piloso-tomentosis, foliolo terminali 2–5 cm. longo; inflorescentiis perbrevibus corymbiformibus foliosis, 1–4-floris, bracteis trifoliolatis quam pedicellis longioribus; pedicellis dense pilosis plerumque inarmatis 0.5–2 cm. longis; calycis pilosis inarmatis segmentis deinde reflexis; fructibus ad 1.5 cm. diametro.—Southampton County, VIRGINIA: thicket bordering Whitefield Millpond, southwest of Corinth, June 5, 1946, *Fernald & Moore*, no. 15,103 (TYPE in Herb. Gray.; ISOTYPE in Herb. Phil. Acad.).

In its very prolonged and eventually tip-rooting branchlets, its few-flowered corymbs and the very small leafy bracts *Rubus subinnoxius* at once suggests *R. Akermani* Fernald in RHODORA, xlvii. 152, plates 890 and 891 (1945). That characteristic doming shrub of Brunswick and Greensville Counties, Virginia, however, has the fertile branches and branchlets much more stiffly spreading, the very firm primocane-leaves all 3-foliolate and with much shorter pubescence on the upper surface, the bracteal leaves very firm and stiff, with mostly obtuse leaflets. *R. subinnoxius*, with long and flexuous recurving primocane-branches and -branchlets,

has membranaceous leaves, those of the primocanes mostly 5-foliolate and with remarkably long appressed villi on the upper surface, those of the floricanes (especially the bracteal ones) acute to acuminate. See p. 92.

*R. (§ CUNEIFOLII) **uliginosus,** sp. nov. (TAB. 1070 et 1071), a *R. Humei* differt primocannae aculeis 5–9 mm. longis; primocannae foliis foliolis mediis subsessilibus vel breviter petiolulatis. —Norfolk County, VIRGINIA: damp old clearing, eastern side of Great Dismal Swamp, north of Wallaceton, June 10, 1946, *Fernald & Moore,* no. 15,101 (TYPE in Herb. Gray.; ISOTYPE in Herb. Phil. Acad.).

Rubus uliginosus is the only member of § *Cuneifolii* known in Virginia with terminal leaflet of the primocane-leaves elliptic. The others have this leaflet broadened toward the summit (obovate) or toward the base (ovate). It is unusual in growing in decidedly swampy ground, the others rarely, if ever, getting their bases immersed. It is very close to *R. Humei* Bailey, Gent. Herb. v. 457, fig. 208 (1943), the outline of the leaflet seeming identical; but in *R. Humei* the upper or intermediate paired leaflets are on long petiolules, in *R. uliginosus* nearly sessile. Furthermore, the prickles on the primocane of the latter are almost twice as long. *R. Humei* is "the biggest of the Cuneifolii, attaining a height of 10 feet"; *R. uliginosus* is content to stop at 2 or 3 feet. Bailey speaks of *R. Humei* as "the only paludose species" of the section. Certainly the commonly inundated low areas of the Great Dismal Swamp, where *R. uliginosus* grows, are "paludose" enough! See p. 95.

*R. SUUS Bailey. Range extended from the mountains of North Carolina to the Coastal Plain of Virginia. ISLE OF WIGHT COUNTY: dry sandy woods near Pope Swamp, northeast of Zuni, *Fernald & Long,* no. 14,342, the specimens closely matching Bailey's description and illustration in Gent. Herb. v. 634, fig. 281 (1945).

*R. IMMANIS Ashe. Range extended from the mountains of North Carolina and Tennessee to the Coastal Plain of Virginia. SUSSEX COUNTY: disturbed soil, bottomland woods along Nottoway River west of Homeville, *Fernald & Long,* no. 14,343—plants high-arching, 10 ft. high, with superior fruit. A close match for the description and figure in Bailey, Gent. Herb. v. 683, fig. 307 (1945).

*R. (§ ARGUTI) **cupressorum,** sp. nov. (TAB. 1072–1074), a *R. vixarguto* differt primocannae foliis foliolis abrupte longeque

acuminatis, supra strigoso-villosis subtus minute pilosis venis villoso-strigosis; floricannae foliis supra glabris subtus ad venas strigoso-villosis; pedicellis minute pilosis inarmatis.—Cypress swamps of southeastern VIRGINIA: wooded river-swamp along Northwest River, northeast of Wallaceton, Norfolk County, June 10, 1946, *Fernald & Moore*, no. 15,100 (TYPE in Herb. Gray.; ISOTYPE in Herb. Phil. Acad.); cypress-swamp on Flag Run, southwest of Story, Southampton County, September 15, 1946, *Fernald, Long & Clement*, no. 15,263; siliceous and argillaceous alluvium bordering cypress-swamp, Nottoway River above Cypress Bridge, *Fernald, Long & Clement*, no. 15,268.

At the type-station, margin of cypress-swamp along Northwest River, *Rubus cupressorum* forms a very tangled thicket 2 m. high, the branches of the floricanes intricately forking and widely arching but with no tendency to tip-rooting. The primocanes also incline to branch. At the other two stations, cypress-swamps about 50 miles farther inland, the fruiting period was long past but the primocanes were much branched. On first inspection *R. cupressorum* might be mistaken for *R. vixargutus* Bailey, Gent. Herb. v. 622, fig. 275 (1945) but the leaflets of the primocanes are abruptly long-acuminate instead of gradually subacuminate; their upper surfaces are strigose-villous instead of "glabrous on upper face". The leafy bracts of the racemes in *R. vixargutus* are described by Bailey as having "strongly obovate or oblanceolate shapes in floral leaflets some of which may be obtuse"; and he describes in Latin the "pedicelli inermes", in English "unarmed pedicels". The upper (flowering) branchlet in his illustration meets these requirements but the lower fruiting branchlet is shown with the leaflets ovate, long-acuminate and jagged-toothed, the pedicels all strongly armed with prickles! The author and the artist, whose drawings seem remarkably accurate, appear not wholly to agree. I am not so situated as to decide what are the real characters. The striking difference in the primocane-foliage and the occurrence of this shrub in cypress-swamps of the Coastal Plain indicates that *R. cupressorum* is not *R. vixargutus* of wooded areas on Lookout Mountain, Tennessee. See p. 95.

Rubus cupressorum might by some be pushed into *R. jugosus* Bailey, l. c. 629, fig. 278 (1945) of the mountains of southwestern Virginia, but that species has the primocane-leaflets more oblong, with nearly parallel straight margins and densely pubescent beneath and the inflorescence more cymiform.

CASSIA NICTITANS L., var. HEBECARPA Fernald. To the type-station in Northampton County add one in PRINCESS ANNE COUNTY: hollows in sand dunes, Chesapeake Beach, *Fernald, Long & Clement*, no. 15,271. See p. 101.

*CROTALARIA PURSHII DC., var. **bracteolifera,** var. nov. (TAB. 1075, FIG. 2 et 3), caule ramosissimo; foliis linearibus vel anguste lineari-lanceolatis; pedunculis longioribus 7–14-bracteoliferis.—VIRGINIA: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, Nansemond County, September 8 and 12, 1946, *Fernald, Long & Clement*, no. 15,273 (TYPE in Herb. Gray.; ISOTYPE in Herb. Phil. Acad.). NORTH CAROLINA: savanna 5 miles east of Fayetteville, Cumberland County, June 11, 1938, *Godfrey*, no. 4552; savanna at Chocowinty, Beaufort County, July 20, 1938, *Godfrey*, no. 4505. SOUTH CAROLINA: grass-sedge bog or savanna, 7 miles east of Andrews, Georgetown County, June 27, 1939, *Godfrey & Tryon*, no. 148; mucky open thicket, 2 miles north of Lake City, Florence County, July 9, 1927, *Wiegand & Manning*, no. 1500. GEORGIA: dry sandy pine-barrens, ½ mile northeast of Townsend, McIntosh County, July 23, 1927, *Wiegand & Manning*, no. 1504.

Typical *Crotalaria Purshii*, based on *C. laevigata* Pursh, not Lamarck, of "pine-woods of Virginia and Carolina", was described "simplex foliis lanceolato-oblongis, . . . racemis oppositifoliis subtrifloris". That was a good characterization of the typical plant of dry sandy pineland or oak-barrens in southeastern Virginia and Carolina (portions shown in our fig. 1), with mostly simple stems, the lower and median leaves lance-oblong and 6–15 mm. wide, the upper ones narrower, the longer peduncles with 2–6 flowers or bracts borne from near or well above the middle to the tip. Var. *bracteolifera*, chiefly of bogs and savannas, has the branches freely once or twice forking, making somewhat intricate bushy-looking plants, the leaves linear or narrowly linear-lanceolate, the broader ones 2–7 mm. wide but the great majority up to only 2–5 mm. Its longer peduncles bear 7–14 flowers or bracts, though the shorter ones have fewer bracts, and the bracts extend well down the axis, often nearly to its base. The branching habit, narrow leaves and numerous bracts mark an extreme of the species which is conspicuously unlike typical *C. Purshii*, but several collections, especially from Florida and the Carolinas, seem quite transitional. I can, therefore, not treat the plant of bog or savanna as a species. See p. 99.

C. SPECTABILIS Roth. SOUTHAMPTON COUNTY: very tall and handsome along a roadside fencerow west of Franklin, *Fernald, Long & Clement*, no. 15,272.

STYLOSANTHES RIPARIA Kearney. On the beaten gravelly foot-path along the Norfolk and Western Railway, west of Kilby, this usually small but often depressed species, responding apparently to the constant trampling through many years, has put out new vigorous sprouts until it now forms intricate and highly floriferous carpets toward a meter across! S. BIFLORA (L.) BSP., var. HISPIDISSIMA (Michx.) Pollard & Ball, similarly trampled on, has there made broad but less extensive mats. Small bits from such giant individuals more than fill herbarium-sheets. Such plants in full bloom are wonderfully attractive and suggest possibilities for rock-gardeners.

*VICIA SATIVA L., var. LINEARIS Lange. NORFOLK COUNTY: fallow field near Yadkin, *Fernald, Long & Abbe*, no. 14,183.

The extreme with leaflets of all but the basal leaves linear and emarginate or apiculate. Not much collected in America.

PUERARIA THUNBERGIANA (Sieb. & Zucc.) Benth. A few years ago we looked upon the Kudzu-vine as a beautiful strong-growing climber with deliciously fragrant deep purple flowers and a rarity in the wild in the latitude of Virginia. Now it is becoming one of the commonest high-climbers along roadsides and borders of woods. At the rate it is increasing and enmeshing shrubs and trees up to 40 ft. high it may soon be a competitor of Japanese Honeysuckle.

EUPHORBIA HUMISTRATA Engelm. To the two stations recorded in Henrico County add one in similar habitat in NANSEMOND COUNTY: dry sandy and gravelly railroad embankment west of Kilby, *Fernald, Long & Clement*, no. 15,299.

*VITIS VINIFERA L. HENRICO COUNTY: waste places and railroad-ballast, near Chesapeake and Ohio Railroad, Richmond, *Fernald & Long*, no. 12,404.

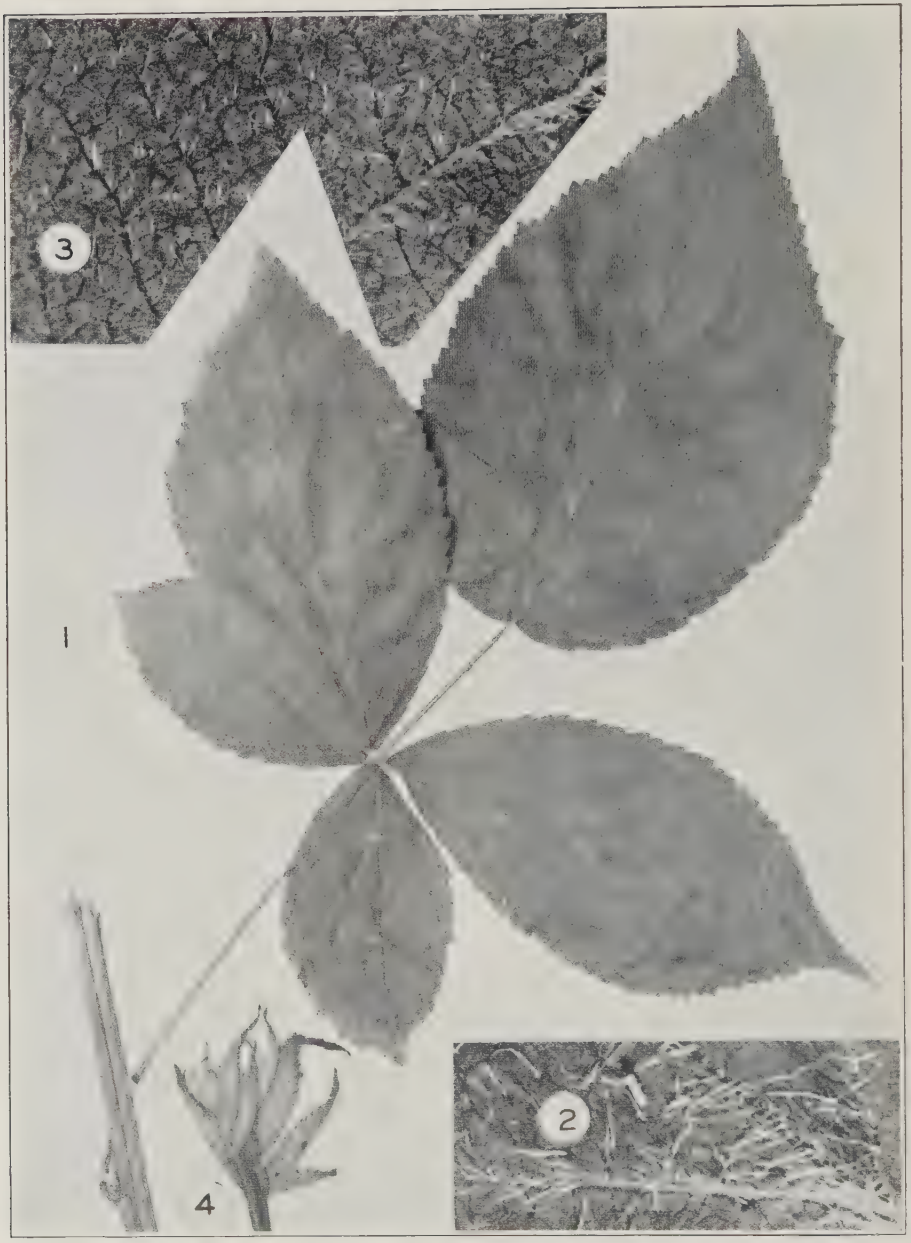
Obviously derived from seeds of "Tokay," "Malaga" or other such grapes thrown from car-windows; now forming dense thickets.

*V. ARANEOSA Le Conte (*V. rufotomentosa* Small). SURRY COUNTY: dry woods north of Surry Courthouse, *Fernald & Long*, no. 13,076.

Quite like the type of *Vitis araneosa* Le Conte (1853), preserved

Photo B. G. Schubert

RUBUS HYPOLASIUS, all figs. from TYPE: FIG. 1, fruiting branchlets, × 1; FIG. 2, lower surface of floricane-leaf, × 10; FIG. 3, fruiting pedicel and calyx, × 5.



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RUBUS SUBINNOXIUS, all figs. from TYPE: F.G. 1, portion of primocane and a primocane-leaf, × 1; FIG. 2, upper and FIG. 3, lower leaf-surface, × 10; FIG. 4, unexpanded young leaves, × 1.

at the Academy of Natural Sciences of Philadelphia and studied by me in 1939—See Fernald in Rhodora, xli. 434 (1939). Closely matched also by an isotype of *V. rufotomentosa* Small, which is quite like the Le Conte type. Although Le Conte's material was from Athens, Georgia, and Small says "Florida to Louisiana" and Bailey, Gent. Herb. iii. 292 (1934) knew it "positively only from northern and peninsular Florida", the Le Conte type from Athens, Georgia, and Small's type from Lake County, Florida, are closely matched in the Gray Herbarium by material from Augusta, Georgia, *S. T. Olney and J. Metcalf*, nos. 213 and 214, identified by Bailey as *V. aestivalis;* and by an old specimen from South Carolina from *M. A. Curtis*. Even so, Surry County, Virginia, is a good extension northward. Whether it is a true species must yet be determined.

Does Gordonia grow in Virginia?—One of the handsomest evergreen trees or shrubs of our southern Coastal Plain is the Loblolly Bay or Tan Bay, *Gordonia Lasianthus* (L.) Ellis.[1] An evergreen with large white flowers on long peduncles, it shares the beauty and distinction of *Stewartia* and other members of the *Theaceae;* and for more than a century and a quarter it has been credited with extending northward into Virginia. Constant watching for it in recent years has failed to reveal it. Kearney, in his very adequate Report on a Botanical Survey of the Great Dismal Swamp Region (Contrib. U. S. Nat. Herb. v. no. 6 (1901)), covering the area from the northern side of Albemarle Sound, in northeastern North Carolina, to the southern side of Chesapeake Bay, did not record it, although he did not see its handsomer cousin, *Stewartia Malachodendron*, which has subsequently been found in the Great Dismal Swamp as well as farther east in his area. Of course, the failure of Kearney and of his successors in exploring the region to locate any *Gordonia* is negative evidence but it is significant that, so far as I can learn,

[1] Although the binomial *Gordonia Lasianthus* is accredited to Linnaeus ("Linn. Mant. ii. 570") in Index Kewensis, while the genus is properly ascribed to "Ellis, in Phil. Trans. lx. (1770) 518, t. 11", it certainly was Ellis's binomial. After his very full account of the characters of the genus Ellis gave a very detailed plate of "Gordonia Lasianthus. *Vulgo* Loblolly Bay" and the explanation of his plate is of "*Gordonia Lasianthus*". In Mantissa Altera in 1771 Linnaeus had *Gordonia* without a word of description or a reference to John Ellis, the Linnaean *Gordonia* thus being a mere nomen. The binomial *G. Lasianthus*, resting on *Hypericum Lasianthus* L. (1753), had a proper basis under an undefined generic name, but Ellis's earlier and identical binomial has right-of-way.

there is no material in any of our representative herbaria from a Virginian station.[1]

Gordonia Lasianthus was first described and illustrated by Plukenet in his Amaltheum Botanicum, 7, t. 352, fig. 3 (1697) as "Alcea *Floridana* quinquecapsularis, Laurinis foliis, leviter crenatis . . . **Rosebay**". In 1731 Catesby, Nat. Hist. Carol. Fla. i. 44, t. 44, had a beautiful plate of it under Plukenet's descriptive phrase as "Loblolly Tree"[2], stating that "it grows in *Carolina;* but not in any of the more Northern Colonies." In his Travels through North & South Carolina, Georgia, East and West Florida (1791) John Bartram went into ecstasies (pp. 161, 162) over "The tall aspiring Gordonia lasianthus . . . in all its splendour, is every way deserving of our admiration . . . it is sixty, eighty or an hundred feet high"; but that was not in Virginia! Dr. Francis Harper, in his masterly study of Bartram's Diary of a Journey through the Carolinas, Georgia and Florida from July 1, 1765 to April 10, 1766,[3] repeatedly refers to Bartram's records of *Gordonia* as "Red Bay": "Alcea (or 'Alcea florideana' or 'Alcea floridana') . . . red bay or loblolly bay (*Gordonia lasianthus*)", *Harper*, p. 79; "probably red bay (*Gordonia lasianthus*)", p. 81; "Bay, red: in this case probably red or loblolly bay (*Gordonia lasianthus*)—not *Persea borbonia*", p. 82, etc. In other words, the name Red Bay was used interchangeably for *Gordonia* and for *Persea*.

Linnaeus, Sp. Pl. ii. 783 (1753), citing the Plukenet account and that of Catesby, already referred to (as well as a reference to Amman and his own Hort. Cliff.), placed the species in *Hypericum*. Then John Ellis, taking up the pre-Linnaean *Gordonia*, redefined it as *Gordonia*, but neither of them indicated it from north of Carolina.

[1] When, in Claytonia, ii, 36 and 37 (1936), I enumerated 29 species which had been standing as Virginian without wholly clear title, I had written "it would be reassuring to see authentic material of *Gordonia Lasianthus* from indigenous Virginian trees". Unfortunately, however, the mimeographed issue of the journal, of which I saw no proof, stated that "it was reassuring" etc. I wish that such wishful thinking were true!

[2] "Loblolly, a loutish or foolish person, nautically loblolly-boy or surgeon's assistant, is a nautical name . . . . It was early used in the West Indies as a plant name, and appears in Plukenet's *Almagestum Botanicum* . . . in 1696, where this phrase occurs on page 38: 'Arbor Indica baccifera Verbasci foliis lanuginosa, Loblolly Barbadensibus dicta'. Plukenet's plant is *Cordia macrophylla*, Mill., which thus appears to be the first tree to which the name Loblolly was applied in print".—Sargent, Silva, i. 42 (1890).

[3] Trans. Am. Phil. Soc. n. s. xxxiii. pts. i (1942) and ii (1943).

It is also significant that Michaux, who travelled and collected in southeastern Virginia and who had an eye particularly for trees, did not see *Gordonia* there, he giving in his Fl. Bor.-Am. ii. 43 (1803) the "*Hab.* in maritimis Carolinae et Floridae", while his son, F. A. Michaux (Hist. Arb. Forest. Am. Sept.) could not bring it up to Virginia. The first and apparently the basic record for Virginia seems to be that of Pursh, Fl. Am. Sept. ii. 451 (1814), Pursh stating its range as "In cedar-swamps, near the sea-coast: Virginia to Florida". All subsequent students of our flora have accepted Pursh's record as authentic; but where in Virginia is that tree up to 100 feet high, the "splendour" of which in "every way deserves of our admiration"? If it is there, surely someone should have seen it.

Frederick Pursh, at the very opening of the 19th century, collected in southeastern Virginia, making his headquarters, apparently, in Southampton County, somewhere near Sebrell, at least north of Jerusalem (now Courtland). In the portion of his herbarium preserved at the Academy of Natural Sciences of Philadelphia there is nothing from the Great Dismal Swamp, evidence that Pursh did not penetrate that vast and rather formidable area, the one extensive tract in which "cedar-swamps" have occurred in Virginia. There the southern Cedar, *Chamaecyparis* (locally known as "Juniper") once prevailed and even in his report in 1901 Kearney was able to state that it was "Abundant in parts of the Dismal Swamp . . . Locally known as 'juniper'". Today it is mostly small remnants or very young colonies. *Persea*, "Popularly confused with *Magnolia virginiana*, under the name of 'bay'" (Kearney, p. 526), is more commonly called "Red Bay" and is found pretty generally there, at the western side of Lake Drummond forming a pure forest within a short distance of a juvenile "cedar-swamp". In view of the abundance of *Persea* (Red Bay) in this greatest of all Virginian "cedar-swamps" and in view of the early name "Red Bay" also for *Gordonia*, it seems not unreasonable to surmise that Pursh's record of *Gordonia* from "cedar-swamps . . . Virginia" may have started from reports of Red Bay in this extensive area where cedar-swamps once prevailed.

Pursh, who was a notorious dipsomaniac, made many records which cannot be substantiated, like his *Dryas tenella* "On the

white hills of New Hampshire", the specimen "*in Herb. Banks*", being really from Newfoundland. Or again, Pursh, who had been on the lower St. Lawrence, where it abounds on brackish shores, gave a good description, as *Swertia pusilla*, of the little annual now known as *Lomatogonium rotatum* (L.) Fries, said by Pursh to grow "On alpine regions of the White-hills of New Hampshire . . . June . . . In the Banksian Museum are specimens from Labrador, in every respect agreeing with the New Hampshire plant". The plant in the Banksian Herbarium is characteristic *Lomatogonium rotatum* (*Pleurogyne rotata*), which follows subsaline or brackish shores up the St. Lawrence to regions known to Pursh, and down the coast, locally, to eastern Maine. An army of keen enthusiasts has sought vainly for it in the nonsaline White Mountains in "June". On the brackish shores of the lower St. Lawrence it flowers from July to September. At the nearest known station to the White Mts., "brackish shores" at Schoodic Point, Hancock County, Maine (*Stebbins*, no. 451), it was beginning to flower on August 28, 1908. It is feared that in this case, as well as that of the Dryas (and some others) Pursh worked on his specimens while "under the influence". At any rate, until someone brings forward real evidence of *Gordonia* being in Virginia I am content to think that Pursh made another mistake.

Hypericum setosum L. To the relatively few recorded stations add another in Nansemond County: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, *Fernald, Long & Clement*, no. 15,308. See p. 99.

H. boreale (Britton) Bicknell. To the stations in the mountains of western Virginia add one on the coast, in Princess Anne County: wet peaty border of fresh pond back of the dunes, Chesapeake Beach, *Fernald, Long & Clement*, no. 15,304. See p. 100.

*Hypericum canadense L., var. **galiiforme,** var. nov. (tab. 1076), caule pergracile reclinato vel adscendento 0.8–3 dm. longo simplice vel sparse ramoso; foliis anguste obovatis vel oblanceolatis petiolatis; laminis primariis 5–15 mm. longis 2–4 mm. latis; inflorescentia laxe brachiata; sepalis 1.5–2 mm. longis; capsula ovoidea apice rotundata 3–3.5 mm. longa.—Sussex County, Virginia: sandy and peaty shore of Airfield Millpond, southwest of Wakefield, September 11 and 12, 1945, *Fernald & Long*, nos. 14,962 (type in Herb. Gray.; isotype in Herb. Phil. Acad.) and 14,964; sphagnous wooded swamp southwest of

Photo B. G. Schubert

RUBUS SUBINNOXIUS, both figs. from TYPE: FIG. 1, portion of floricane, × ⅓; FIG. 2, lower surface of primocane-leaf, × 10.

Photo B. G. Schubert

RUBUS SUBINNOXIUS, all figs. from TYPE: FIG. 1, small fruiting branchlet, × 1; FIG. 2, fruiting pedicel and fruit, × 5; FIG. 3, upper surface of floricane-leaf, × 10.

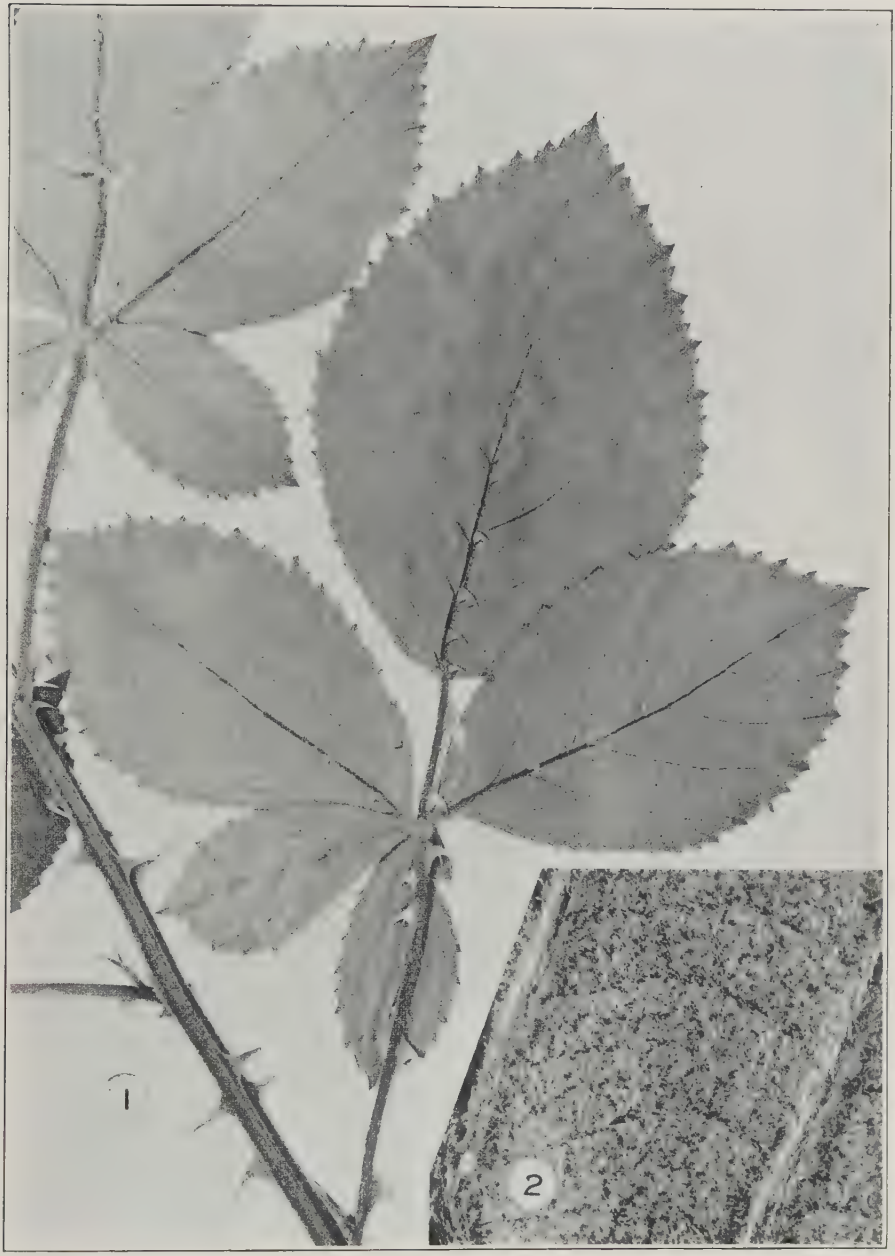

Photo B. G. Schubert

RUBUS ULIGINOSUS, both figs. from TYPE: FIG. 1, portion of primocane, × 1; FIG. 2, lower surface of primocane-leaf, × 10.

Photo B. G. Schubert

RUBUS ULIGINOSUS, both figs. from TYPE: FIG. 1, fruiting cane, × 1; FIG. 2, upper surface of floricane-leaf, × 10.

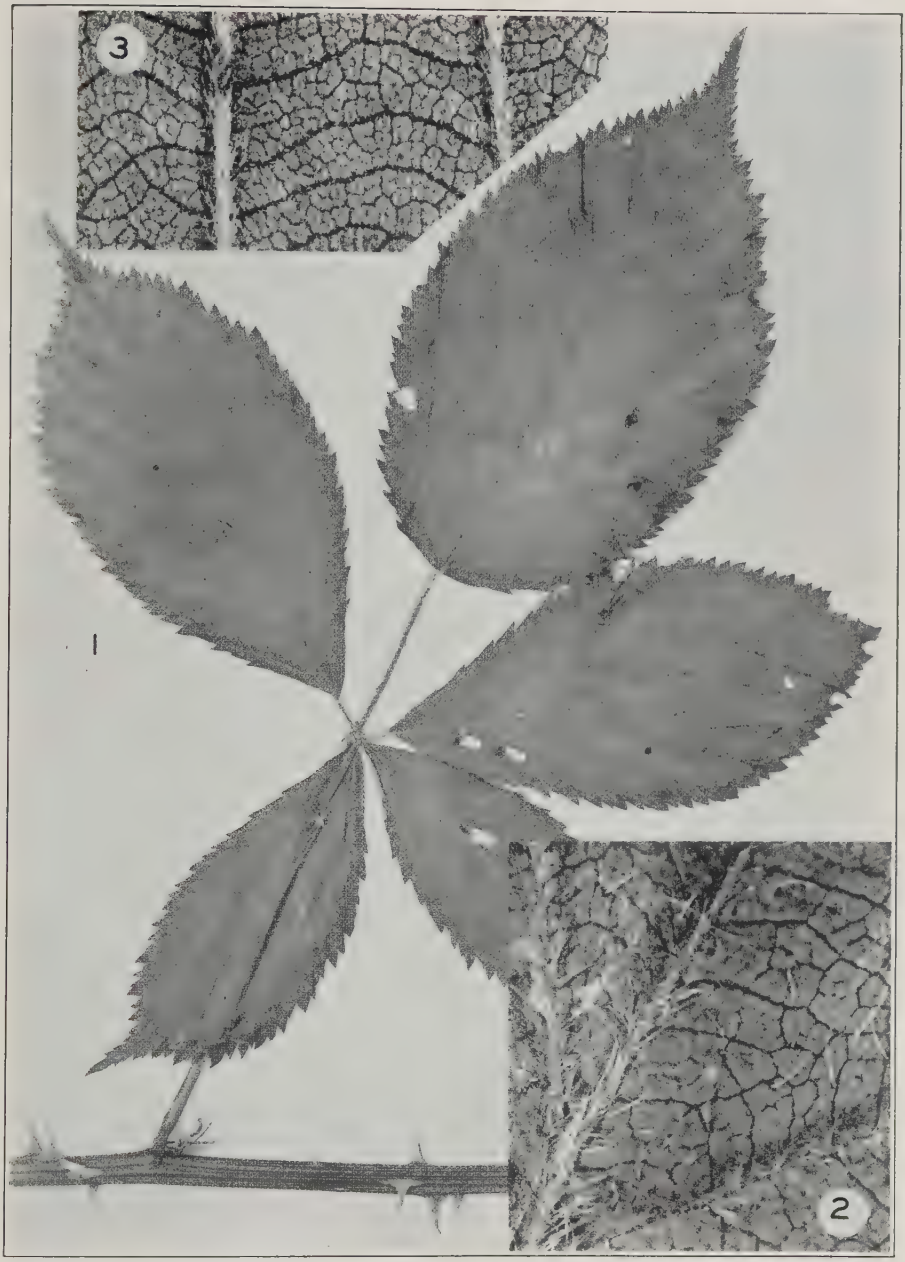

Photo B. G. Schubert

RUBUS CUPRESSORUM, all figs. from TYPE: FIG. 1, portion of primocane, × 1; FIG. 2, upper, and FIG. 3, lower surface of primocane-leaf, × 10.

Photo B. G. Schubert

RUBUS CUPRESSORUM, all figs. from TYPE: FIG. 1, fruiting branchlets, × ⅓; FIG. 2, upper, and FIG. 3, lower surface of floricane-leaf, × 10.

Photo B. G. Schubert

RUBUS CUPRESSORUM, both figs. from TYPE: FIG. 1, pedicel and fruiting calyx, × 5; FIG. 2, fruiting branchlets, × 1.

Photo B. G. Schubert

CROTALARIA PURSHII: FIG. 1, summit (in two parts) of plant, × 1. Var. BRACTEOLIFERA: FIGS. 2 and 3, portions from summit of TYPE, × 1.

Brittle's Millpond, west of Wakefield, September 11, 1945, *Fernald & Long*, no. 15,954.

Hypericum canadense, var. *galiiforme*, especially when reclining and weakly branching among the natural covers of sphagnous pockets, so strikingly suggests a weak *Galium* of the *G. trifidum* series as to be deceptive; in more open spots (our no. 14,964) it is as strongly ascending as typical *H. canadense*. In the latter wide-ranging and highly variable plant the median and upper cauline leaves are linear to linear-oblanceolate, sessile or nearly so; the sepals 2.5–4.5 mm. long; the finally conic to lanceolate and acuminate-tapering capsules 4–6.5 mm. long. Var. *galiiforme* is weak, reclining when in deep *Sphagnum*, its very short and broad leaves varying from narrowly obovate to oblanceolate, petioled, and only 5–15 mm. long. The very lax and open cyme bears flowers and fruits smaller than in typical *H. canadense:* sepals only 1.5–2 (instead of 2.5–4.5) mm. long and roundish-tipped capsule only 3–3.5 (instead of 4–6.5) mm. long. The most dwarf extremes of *H. canadense* (from Newfoundland and the Labrador Peninsula) have fruits and foliage nearly as short as in var. *galiiforme* but their leaves are those of true *H. canadense*.

At Airfield Millpond var. *galiiforme* forms definite carpets in the *Sphagnum* and wet peat quite apart from the gigantic typical *H. canadense*, also found there and from the heteromorphic and always puzzling half-sterile *H. dissimulatum* Bicknell, which there reaches a height of 7.5 dm. See p. 87.

Lechea maritima Leggett, var. virginica Hodgdon. To the few recorded stations, in Northampton, Elizabeth City and Princess Anne Counties, add another in Princess Anne County: hollows in sand dunes, Chesapeake Beach, *Fernald, Long & Clement*, no. 15,301. See p. 101.

Rhexia ciliosa Michx. Range extended farther east in Nansemond County: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, *Fernald, Long & Clement*, no. 15,311. See p. 98.

*Ludwigia virgata Michx. Range extended northward into southeastern Virginia. Nansemond County: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, *Fernald, Long & Clement*, no. 15,315.

Found on September 8th, presumably two to three months after flowering, only a single much depleted fruit being left. The foliage and basal habit are those of *L. virgata*. See p. 99.

L. ALATA Ell. To the recorded stations in Princess Anne add one in NORFOLK COUNTY: fresh tidal reed-marsh along Northwest River below Northwest, *Fernald & Long*, no. 14,965. See p. 90.

L. PILOSA Walt. To the single station each, recorded in Norfolk and Nansemond, add from NANSEMOND COUNTY: sphagnous and peaty bog (Magnolia swamp) by Norfolk and Western Railway, 1–1½ miles west of Kilby, *Fernald, Long & Clement*, no. 15,316; wet hollow in old woodroad about 1 mile east of Buckroe (Purvis R. R. station), *F. L. & C.*, nos. 15,317 and 15,318; border of swampy pineland south of Buckroe, *F. L. & C.*, no. 15,319.

Most characteristic plants, like no. 15,319, are tall (up to 1.2 m. high or long), soon freely and divergently branched, either ascending or becoming topheavy and arching to the ground and rooting at tip, the leaves of the fertile stems and branches soft-pilose. Late in the season the prostrate overwintering basal shoots develop, these having short and broad glabrous or nearly glabrous leaves purple beneath. At the station for nos. 15,317 and 15,318, east of Buckroe, small and simple juvenile plants without branches and with nearly or quite glabrous broad leaves purple beneath were fruiting, precocious individuals not waiting for the next year! See p. 99.

L. BREVIPES (Long) Eames. To the few recorded stations (in Princess Anne, Isle of Wight and Norfolk) add two others. PRINCESS ANNE COUNTY: border of fresh pond back of the dunes, Chesapeake Beach, *Fernald, Long & Clement*, no. 15,324. SOUTHAMPTON COUNTY: wet peaty margin of Whitefield's Millpond, southwest of Corinth, *Fernald & Moore*, no. 15,119, *Fernald, Long & Clement*, no. 15,323.

At Whitefield Pond, the most inland station known, it was possible to extract continuous fruiting strands up to 7.5 dm. long. See pp. 92 and 100.

SANICULA SMALLII Bicknell. Local range extending eastward into NANSEMOND COUNTY: rich sandy and loamy oak and hickory woods just east of Suffolk, *Fernald, Long & Clement*, no. 15,327. See p. 96.

THE VIRGINIAN RECORD OF OXYPOLIS FILIFORMIS.—For nearly a century *Oxypolis filiformis* (Walt.) Britton, either under that name or one of its synonyms, *Tiedemannia teretifolia* (Muhl.) DC., has been credited with growing in Virginia, and this record had apparent validation by Coulter & Rose, in their *Notes on*

Umbelliferae of E. United States. III, Bot. Gaz. xii. 74 (1887) where it was stated by the monographers of the family to grow from "Virginia to Florida and Louisiana", although later, when it "came to a show-down" in their Monograph of the North American Umbelliferae, Contrib. U. S. Nat. Herb. vii. no. 1: 193 (1900), though still holding to "Ponds and swamps from southern Virginia to Florida and west to Louisiana", they could cite as "*Specimens examined*" only material from Florida and Mississippi, except for their very local var. *Canbyi* of Ellendale, Delaware (*O. Canbyi* (C. & R.) Fernald). Actually, *O. filiformis* is represented in the Gray Herbarium as extending westward into Texas and northward along the Coastal Plain into southeastern North Carolina. There are in this herbarium alone six numbers from North Carolina, but the northernmost material is from Onslow County (shallow water, stagnant pool, Dixon, *L. F. & Fannie R. Randolph*, no. 972), fully 125 miles south of the Coastal Plain of Virginia. Mr. Long and I, anxious to collect a species seemingly well attested as growing in southern Virginia, have wallowed through innumerable inundated pond-margins for a plant which the Randolphs would probably have seen if it had been there. Finally, deciding to follow up the record, I have found that it started in Gray, Man. ed. 2: 153 (1856), without specific description, "Virginia (Harper's Ferry) and southward". Harper's Ferry, then in Virginia, is not well defined by Coulter & Rose's "southern Virginia". Furthermore, the plant of Harper's Ferry, "collected by Doctor Aiken some seventy-five years before [before 1911], near Harper's Ferry, W. Va." (Rose in Contrib. U. S. Nat. Herb., xiii. 289 (1911)), extends farther down the Potomac into Maryland and Virginia and is the remarkable little aquatic described as *Harperella* (not named for Harper's Ferry) *vivipara* Rose, l. c. 290 (1911), and subsequently transferred to *Ptilimnium* as *P. viviparum* (Rose) Mathias in Brittonia, ii. 244 (1936).[1] Obviously, if *Oxypolis filiformis* is now detected about ponds or savannas of southeastern Virginia it will be new to the flora of the state. One may also, with some hope, watch

[1] "Southern Virginia" of the treatment in the North American Fl. xxviii B, 200 (1945), one of its authors being the author of *Ptilimnium viviparum* of *northern* Virginia, should obviously be dropped. The range of *Oxypolis ternata* on the same page (in 1945) could have been extended into the baffling "southern Virginia" on the basis of collections reported in Rhodora, xli. 552, with map 8 on p. 471 (1939).

there for *O. Canbyi* (Coult. & Rose) Fernald in Rhodora, xii. 139 (1939) for, although perhaps extinct at its original station in Delaware, there is beautiful material of it in the Ravenel herbarium at Converse College from Lee County, Georgia. Georgia material is also cited by Mathias & Constance in the North American Flora.

Virginian Occurrence of Kalmia hirsuta doubted.—*Kalmia hirsuta* Walt., so distinct that Small considered it a monotypic genus, was described from South Carolina. Michaux knew it only from Georgia and even Pursh was content with "South Carolina and Georgia". M. A. Curtis did not know it from North Carolina; at least he did not mention it in his various enumerations of plants of that state. In the Gray Herbarium, there is no material of it from north of the Coastal Plain of South Carolina. Just how it wandered into Gray, Man. ed. 2: 256 (1856) I can not determine, but it is there entered: "Sandy pine-barren swamps, E. Virginia and southward". Virginia has subsequently stood in practically all manuals as having *K. hirsuta*. Until real evidence of it in the state is forthcoming it should be dropped. See p. 86.

*Lyonia ligustrina (L.) DC., forma **nanella,** f. nov. (tab. 1077). Frutex 1.5–2 dm. altus, foliis maturis 1–3 cm. longis 0.5–1.4 cm. latis; capsulis 2–3 mm. diametro.—Nansemond County, Virginia: sphagnous and peaty bog by Norfolk and Western Railway, about ½ mile west of Kilby, September 8 and 12, 1946, *Fernald, Long & Clement*, no. 15,331.

Forma *nanella* is the tiniest extreme of *Lyonia ligustrina*. Whether it is a dwarf form of typical *L. ligustrina* or of var. *salicifolia* (Wats.) DC. is at present questionable. One individual has the leafy inflorescence of the latter. The others have leafless inflorescences, but the plants are so mature that the leafy bracts may have disappeared. Further material, secured earlier in the summer, will settle that point. See p. 100.

Symplocos tinctoria (L.) L'Hér., var. pygmaea Fernald. Add another station in Isle of Wight County: sandy pine-barrens south of Zuni, *Fernald & Moore*, no. 15,137.

Fraxinus americana L. Local range extended eastward to the Blackwater River. Nansemond County: sandy woods, bank of Blackwater River, George's Bend, south of South Quay, *Fernald, Long & Clement*, no. 15,338.

Photo I. D. Clement

HYPERICUM CANADENSE, var. GALIIFORME, both figs. from TYPE: FIG. 1, three plants, × 1; FIG. 2, fruits, × 10.

Photo B. G. Schubert

LYONIA LIGUSTRINA, forma NANELLA, all figs. from the TYPE: FIGS. 1 and 2, largest plant, × 1; FIG. 3, summit of small plant, × 1.

No. 15,338, with the glabrous branchlets and petioles of typical *Fraxinus americana*, grew beside a similar tree (not fruiting) with the branchlets, petioles and leaf-rachises tomentulose. This was obviously the relatively southern var. *biltmoreana*.[1]

F. PENNSYLVANICA Marsh., var. **subintegerrima** (Vahl), comb. nov. *F. juglandifolia*, β. *subintegerrima* Vahl. Enum. i. 50 (1804). *F. juglandifolia* Willd. Berl. Baumg. 117 (1796), not Lam. (1788). *F. caroliniana* Willd. l. c. 119 (1796), not Mill. (1768). *F. lanceolata* Borkhausen, Handb. Forst. Bot. i. 820 (1800). *F. caroliniana*, β. *F. latifolia* Willd. Sp. iv. 1103 (1806). *F. pubescens*, **subpubescens* Pers. Synop. ii. 605 (1807). *F. expansa* Willd. Berl. Baumg. ed. 2: 150 (1811). *F. viridis* Michx. Hist. Arb. Am. iii. 115, t. 10 (1813). *F. pubescens*, δ. *subpubescens* (Pers.) Pursh, Fl. Am. Sept. i. 9 (1814). *F. pennsylvanica*, var. *lanceolata* (Borkh.) Sargent, Silva, vi. 50 (1894).

The International Rules of Botanical Nomenclature demand the retention of the first validly published and legitimate name in each rank. The current *Fraxinus pennsylvanica*, var. *lanceolata* fails to satisfy this requirement.

*SABATIA DIFFORMIS (L.) Druce. SUSSEX COUNTY: sandy and peaty shore of Airfield Millpond, southwest of Wakefield, *Fernald & Long*, no. 14,977; *Fernald, Long & Clement*, no. 15,340.

First station known between North Carolina and eastern Maryland. Only a few plants noted in 1945, when the pond was abnormally high. In 1946, the pond being very low, the Sabatia was relatively abundant. See pp. 86 and 95.

(*To be continued*)

SHORTIA GALACIFOLIA IN ITS TYPE LOCALITY

ALTON E. PRINCE

Relatively little has been done toward making a definite survey of *Shortia galacifolia* Torrey and Gray in its type locality, and since the author had the opportunity to visit the area where this relatively rare plant was originally collected, it is perhaps worth while to record his findings. How unfortunate it is that Asa Gray did not realize when he made his search for this plant,

[1] FRAXINUS AMERICANA L., var. **biltmoreana** (Beadle) J. Wright in Gray Herb., July, 1941. *F. biltmoreana* Beadle in Bot. Gaz. xxv. 358 (1898).

between 1841 and 1879, that the "forks of the Keowee", given by Michaux in his journal as the locality where his collections were made in December 1788, is in South Carolina rather than in North Carolina. Jenkins[1] has given an excellent account of Shortia's history, therefore no more of it will be repeated here.

Soon after beginning my duties on the staff of the Botany Department at Clemson Agricultural College, Clemson, South Carolina in 1940, friends indicated that *Shortia* (Oconee Bells) could be found in the near-by Jocassee area. Being acquainted with the history of this plant through Professor Fernald's taxonomy course at Harvard, I became more than casually interested and subsequently planned several trips to the area, but inclement weather or other events interfered each time until the spring of 1944.

The first successful opportunity came following a day when Mr. J. A. Berly[2] told me that he was going into the Jocassee area and asked if I wanted to try to see the *Shortia*. Plant presses were prepared, because Dr. Lyman B. Smith had indicated in previous correspondence that this plant would be a good addition to *Plantae Exsiccatae Grayanae* IF it happened to be in sufficient quantity to permit such a collection. The next day (March 18, 1944) the author accompanied Mr. Berly and Mr. O. L. Cartwright[3] to Jocassee, South Carolina. Mr. Berly knew the region well and knew just where the *Shortia* was most easily reached. On arrival at the road that extends along the Whitewater River we noticed that a crew was at work widening the road and because Mr. Berly had indicated that the Oconee Bells were right along side of the road, my spirits dropped considerably. However, as we passed the vanguard of the crew with their bulldozer, Mr. Cartwright and I were told that some plants should be just ahead.

Why we, such neophyte botanists, should be given the privilege of seeing what Asa Gray searched for three times is difficult to understand, but it was certainly our good fortune, for *Shortia galacifolia* was blooming in all its rare and delicate beauty, its

[1] C. F. Jenkins, Arnoldia **2**: 13–28. 1942.

[2] J. A. Berly, Assistant Entomologist, South Carolina State Crop Pest Commission, Clemson, South Carolina.

[3] O. L. Cartwright, Associate Entomologist, South Carolina Agricultural Experiment Station, Clemson, South Carolina.

bell-shaped, nodding flowers were there by the hundreds, one, two, three or more to a plant. They were not all white as described in the manuals, but many were delicate shades of pink and blue, adding in no small way to the spectacle. Many flower clusters were overhanging the shallow bank, brilliant against the shining green basal cluster of leaves. In addition there were several mats ten to twenty feet in size under the white pines, hemlocks and laurel. It was observed that some plants were connected by underground stolons, which were a means of spreading and, for the most part, accounted for the mats of closely associated plant groups. With the sounds of the road crew strong in our ears, few qualms were felt as we selected the plants for our collection. While Mr. Berly and I were putting the plants in press, Mr. Cartwright took pictures, two of which were included with the specimens distributed as *Plantae Exsiccatae Grayanae* Number 1378.

Additional trips on the two succeeding years were made into the area to look at the *Shortia* which was found in a few other more or less isolated places. On one trip it was observed that the road widening and subsequent lumbering operations almost eliminated the colonies from the spot where the exsiccatae specimens were collected. Another trip on May 21, 1946 to the exact fork of the Keowee which forms the Whitewater and Toxaway Rivers was more profitable. *Shortia* plants were found, not in abundance, but still plentiful, tucked away along the deep ravines cut by rivulets entering the Toxaway. It is hoped that in spots like these, *Shortia* will survive.

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A NEW DYSSODIA FROM TEXAS

V. L. Cory

Among an excellent series of plant specimens coming to me in 1943 from a well-known young botanist, Dr. W. L. Tolstead, who then was with the U. S. Army in a training camp at the base of the Edwards Plateau some twenty miles southwest of Abilene in Taylor County, Texas, was one new to me, and which also

seemed to be undescribed. Dr. S. F. Blake has examined the material and reports that it seems to represent a valid species.

Dyssodia texana, new species. Plant a glabrous perennial, scarcely fruticose at base, up to 15 cm. tall and with a spread of 30 cm. or more: stems diffusely branched; leaves alternate, mostly less than 1.5 cm. long, pinnatifid with 6–12 filiform spinulose-tipped divisions, which are up to 1 cm. long; peduncles slender, 3–6.5 cm. long; involucre hemispheric, 5 mm. high and 7 mm. broad, glabrous, with up to 10 lanceolate accessory bracts; principal bracts in a single series wholly coalescent up to the triangular, short-acuminate free tips; glands 1 or mostly 2 on each bract; ligules 4 mm. long and 2 mm. broad; disk-corollas 3 mm. long, the tube as long as the throat; achenes 3 mm. long, sparingly hispidulous on the angles; squamellae 10, or sometimes reduced to no more than 5, and then of the same length and truncate, but usually of two general lengths, the longer 1 mm. long and the shorter 0.75 mm. long, oblong to somewhat obovate, from truncate to acute, all erose at summit, or occasionally one or two of the longer squamellae awn-tipped or shallowly 2-lobed at apex and bearing an awn from between the two lobes that is slightly longer than the squamella itself.

Dyssodia texana, sp. nov. Perennis glabra basi vix suffrutescens ad 15 cm. alta, ramosissima et 30 cm. vel ultra lata. Folia alterna pinnatifida 1.5 cm. longa, lobis filiformibus apice spinulosis ad 1 cm. longis. Pedunculi graciles 3–6.5 cm. longi. Involucra hemispherica 5 mm. alta 7 mm. lata glabra bracteolis ad 10 onusta. Phyllarii usque ad apices deltoideos breviacuminatos glandulose uni- vel bipunctatos liberos connati. Ligulae 4 mm. longae 2 mm. latae, corollae tubulosae 3 mm. longae tubo faucem aequante. Achaenia 3 mm. longa in angulis parce hispidula, squamellas 10 biformes (1 mm. et 0.75 mm. longas) rarius uniformes gerentia, quae variant oblongae vel subovatae, apice erosae vel longiores rarius aristatae vel bilobatae e sinu aristatae arista squamellam excedente.

Type specimen is *Tolstead* No. 7030. It was collected by Dr. W. L. Tolstead on April 26, 1943, at Camp Barkeley in Taylor County, Texas, where it was growing in grassland in a stony clay soil. It is deposited at the Gray Herbarium. Isotype specimens are deposited at other herbaria.

The relationship of this species seems to be with *D. Treculii* and *D. Hartwegii*, being more like the latter in the length of the achenes and pappus, and more like the former in the matter of foliage. Both these species have the pappus in two series, the inner of which is thrice the length of the outer and bearing an

awn from between the two lobes of the apex, while in this species, the squamellae, except for differences in length, which roughly are of longer ones as contrasted to shorter ones, are otherwise for the most part alike, usually none being awn-tipped or bearing an awn. Moreover, in this species the squamellae are much shorter than in the two others. This plant must be an endemic species, hence it is fitting to name it for the state in which it grows.

As yet I have not collected this plant myself; but another collection has come to me, and has been given my number 46098. This came from Mr. Horace Holiman of San Angelo, Texas, and was collected on his ranch eight miles east from that city. Mr. Holiman suspected this plant as one poisonous to sheep (which it probably is not, or more likely it is not eaten by sheep) and states that it grows even more abundantly a few miles east from his place. Sooner or later I hope to collect this species myself.

I wish to express deep appreciation to Dr. W. L. Tolstead for sending me this and many other plants of his excellent collection; to Mr. Horace Holiman for his excellent material; to Drs. S. F. Blake and I. M. Johnston for critical study of my material of this species; and to Dr. L. H. Shinners for valuable assistance in preparation of the Latin description.

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PETALOSTEMUM OREOPHILUM A SPECIES OF DALEA.—My very good friend, Dr. B. C. Tharp, Professor of Botany at the University of Texas, recently told me of an observation made by himself and Dr. Fred A. Barkley, while they were studying a cotype specimen of *Petalostemum oreophilum* (a species described by me in RHODORA, Vol. 41, No. 492, December, 1939). Their discovery was that the flower of this species has ten stamens, whereas typical *Petalostemum* has but five. I have examined cotype material kindly loaned me by Mr. H. B. Parks, Botanist in Charge of the S. M. Tracy Herbarium, A. & M. College of Texas, and find from this that my friends are correct. At the time of finding this plant it resembled in appearance some of the species of *Petalostemum* and did not resemble any species of *Dalea* with which I was familiar. I took too much for granted,

and apparently did not observe the stamens closely and certainly did not count them. I regret not having been more careful. On the other hand, I am deeply grateful to Drs. Tharp and Barkley for giving me the opportunity to correct this unfortunate error by calling it to my attention, and permitting me to make here the proper combination—Dalea **oreophila** (Cory), new comb.

In Rydberg's treatment of the genus *Parosela* (for which the name *Dalea* is now conserved) in North American Flora, Vol. 24, Part 2, Jan. 22, 1920, this species belongs to the group of *Alopecuroides*. In this group it is more closely related to *D. leporina* (Ait.) Kearney & Peebles than it is to *D. alopecuroides* Willd. Except for the scarious margins, its bract is similar to that of *D. leporina*. From that species our plant differs in its lesser height (4 dm. or less vs. 5 dm. or more), in its fewer and shorter leaflets, in its shorter calyx (3 mm. vs. 4–5 mm.), in its corolla lacking any white in its coloration, and in its banner having a longer claw (3 mm. vs. 2 mm.).

In the original description I also failed to cite the type collection, hence do so now. It is my number 30392, and it is deposited at the Gray Herbarium.—V. L. Cory, Southern Methodist University, Dallas, Texas.

Flora of Delaware and the Eastern Shore.—All students of the flora of the Eastern States will heartily welcome the appearance of Mr. Robert Tatnall's *Flora of Delaware and the Eastern Shore*.[1] The introduction gives a clear and highly illuminating account of the physiography, phytogeography and history of botanical exploration (beginning with William Baldwin and Thomas Nuttall) of this fascinating peninsular-section of the northeastern Coastal Plain and adjacent Piedmont country, an area of somewhat more than 6000 square miles with a flora of about 2200 numbers. The plates are from beautiful photographs by Frank Morton Jones. The catalogue itself has been carefully prepared and is up-to-date, so carefully prepared that the rare slips (like citing E. B. Bartram, instead of Ascherson, as the author of *Bassia hirsuta*) are gratifyingly rare. Everyone will need this new *Flora*.—M. L. F.

[1] Tatnall, Robert R. *Flora of Delaware and the Eastern Shore*, an Annotated List of the Ferns and Flowering Plants of the Peninsula of Delaware, Maryland and Virginia. Pp. xxv + 313, map and 9 plates. $3.50. For sale at Academy of Natural Sciences, Philadelphia 3, Pa., or The Greenwood Bookshop, Inc., Wilmington 28, Del.

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